NOAA Restoration Center

Fiock Dam Removal Project

Project Description

Fiock Dam, a summer flashboard dam, has created a 5 acre pond that is lethal to salmonids when standing water rises to high temperature levels. The Shasta River CRMP has removed Fiock Dam to improve fish passage and lower high water temperatures for fall chinook and coho salmon. The project has also replaced the irrigation and municipal water supply with a new water intake valve, pump system, and fish screen.

Project Nickname	Fiock Dam Removal (FAF-98)		
Location	Yreka, Siskiyou County, CA, 96097 SWR		
Program	Community-based Restoration	**Congressional District**	CA 2
Lat, Long Coordinates	-122.3343, 41.4349	**Land Ownership**	Private
Implementation Start Date	01-JUL-98	**Implementation End Date**	01-AUG-98
River Basin	Shasta River	**HUC**	18010207
Geographic Identifier	Klamath River	**USGS Topo Quad**	HAWKINSVILLE
Project Status	Implementation Complete	**Project Type**	Restoration
Project Status Description			
Landmark	Fiock Dam at 0.25 miles downstream (north) of Yreka-Ager Rd		
Number of Volunteers	10	**Volunteer Hours**	40
Volunteer Description	landowners and community members		
Proposed Project?	**Project Closed?** Y	**FY Completed**	1998

Habitat Information

Type	Acres Created	Acres Re-established	Acres Rehabilitated	Acres Enhanced	Acres Protected	Stream Miles	# Plants/ Animals
stream/river channel						10	

Species Information

Commonname	Genus	Species	Population Name	NMFS Status	Species Type
Salmon, chinook	*Oncorhynchus*	*tshawytscha*	California Coastal	Threatened	animal
Salmon, coho	*Oncorhynchus*	*kisutch*	Central California Coast	Threatened	animal
Trout, steelhead	*Oncorhynchus*	*mykiss*	Klamath Mountains Province	Candidate	animal

Partners

- Bureau of Land Management
- Natural Resource Conservation Service
- California Department of Fish and Game
- Shasta River Coordinated Resources Management and
- Klamath River Basin Fishery Task Force
- Fiock Family

Restoration Techniques

- hydrologic control structures
- culvert removal

Contacts

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NOAA Involvement

technical assistance/expertise
source of funding

Monitoring Information

Characteristic	Type
Fish density/diversity	Structural
Hydrodynamics	Structural
Finfish utilization	Functional

Additional Info

Ongoing and coordinated by the CA Dept. Fish & Game and the Shasta River Coordinated Resources.

Funding Information

Funding Mechanism	FY Awarded	NOAA Contribution	Partnership Contributio	Total Partnership Contribution
Fish America Foundation	1998	$2,500	$2,500	$5,000
TOTALS		$2,500	$2,500	$5,000

Other Non-Federal $ $2,500 **Other Federal $** $2,500 **Total Project Cost** $10,000

Funding Recipient Shasta River Coordinated Resources Management and Plann

Funding Comments

Project Abstract

The Shasta River contains low levels of dissolved oxygen and high water temperatures that are detrimental to Coho and Chinook salmon and steelhead populations. These problems are caused by several factors, including fish migration delays caused by numerous impoundments, accumulations of organic debris and growth of aquatic plants in the slack water areas behind irrigation dams, and increases in water temperatures caused by surface heating in impounded areas. Juvenile salmon tend to congregate in these impoundments as they attempt to make their way to the ocean because the slack water areas and debris inhibit their journey. When lethal limits of temperature and dissolved oxygen are reached, many of these juveniles are killed.

Finding alternatives that will allow the removal of these summer impoundments has been identified by the Shasta River Coordinated Resources Management and Planning Committee (CRMP) and confirmed by regional NOAA Fisheries personnel as a necessary step to protect the existing water and land uses in the Shasta Valley and restore the salmon and steelhead runs in the Shasta River. The CRMP is made up of all landowners in the Shasta Valley, along with representatives of the California Department of Fish and Game, Natural Resources Conservation Service, Bureau of Land Management, Klamath River Basin Fishery Task Force and representatives of the three irrigation districts using the river. Removing the impoundments will narrow the river, reducing solar heating, and increasing water velocities that will increase mechanical aeration, inhibit the growth of rooted aquatic plants, minimize accumulation of organic debris and discourage fish from rearing in areas likely to become lethal to juvenile salmonids.

In order for the dam owners to allow the dams to be removed, an alternate mechanism was tested to allow irrigation to continue without relying on a flashboard dam to increase water depth. The California Department of Fish and Game funded the development and field test of a temporary self-cleaning pump and screen system for this purpose in 1994. The successful demonstration project has provided necessary information for a replacement project to be developed, which would eliminate the largest impoundment in the river. NOAA Fisheries and FishAmerica Foundation provided $5,000 to complete the pump installation and dam removal.